



Reconfiguring the Community Health Workforce in a Super-Aged Context: An Empirical Study of Taiwan's Community Health Manager Training Model

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Abstract

This study investigates how a civil-society organization in Taiwan has reconfigured community health education capacity ahead of the country's transition into a super-aged society. Using the Community Health Manager system established by the ROC Technological and Vocational Education Exchange and Development Association (CITEA) as an empirical case, we examine the institutional and pedagogical mechanisms that cultivate a sustainable, scalable workforce of lay community health educators. We conducted semi-structured qualitative interviews with certified instructors (N = 12) possessing 3–6 years of frontline teaching experience without prior clinical or medical backgrounds, analyzed through thematic analysis. Findings reveal that the program addresses critical shortages in primary health education caused by overburdened healthcare professionals through modular curricular scaffolding and professionalized, remunerated teaching. Distinct from volunteer-dependent frameworks, this compensated model offers hyper-local, flexible teaching schedules that enable educators to reconcile paid employment with family caregiving obligations. This structure establishes a quadruple-benefit loop: advancing community health literacy, providing independent income, fostering instructor self-efficacy, and generating intrafamilial health spillovers. These results demonstrate a transferable implementation framework and quality-assurance mechanism for civil-society-led workforce development, offering policy insights for super-aged societies globally.

keywords: caregiving, civil-society leadership, community health workers, health literacy, implementation science, lay educators

1. Introduction

Demographic ageing represents one of the most critical public health and socio-economic challenges of the twenty-first century (World Health Organization, 2020). Worldwide,

healthcare systems historically organized around acute hospital treatments are facing severe strain in managing chronic non-communicable diseases (NCDs) and age-related functional decline. Taiwan offers an urgent and instructive case study: officially entering super-aged society status in 2025, with more than 20% of its population aged 65 and older, the country is experiencing one of the world's most accelerated demographic transitions (Ministry of the Interior, 2025; National Development Council, 2024).

Mitigating this structural pressure requires a strategic transition toward upstream, community-level primary prevention and health literacy empowerment (Nutbeam, 2000). However, delivering sustained health education at the grassroots level faces a profound systemic dilemma. Clinical and allied-health professionals (such as physicians, registered nurses, and licensed therapists) are heavily concentrated in acute-care facilities, facing institutional workload constraints that severely restrict regular outreach (World Health Organization, 2018). Conversely, conventional grassroots health promotion heavily depends on informal volunteer networks (Balcazar et al., 2011). While well-intentioned, these volunteer initiatives frequently suffer from high turnover rates, pedagogical heterogeneity, and limited operational sustainability due to an absence of formal compensation, systematic credentialing, and professional scaffolding.

To bridge this structural service gap, the ROC Technological and Vocational Education Exchange and Development Association (CITEA) established the "Community Health Manager" (CHM) training model in 2015—a full decade prior to Taiwan's super-aged milestone. Rather than treating lay educators merely as stopgap volunteers, this civil-society-led initiative reconfigures non-clinical middle-aged adults into certified, remunerated frontline health educators. To rigorously evaluate this decade-long vocational and pedagogical architecture, this study investigates three central research questions:

- (1) How does modular curricular scaffolding enable lay individuals without prior clinical backgrounds to develop competent instructional delivery and professional self-efficacy in community settings?
- (2) In what ways does institutionalizing paid, hyper-local teaching enable middle-aged informal caregivers to achieve financial compensation while reconciling heavy domestic caregiving obligations?
- (3) What are the systemic mechanisms, implementation prerequisites, and institutional quality-assurance protocols required to sustain and scale this civil-society workforce model across aging communities?

2. Theoretical Background

2.1 Lay Health Educators and the Shift from Volunteerism to Remunerated Work

Lay health workers (LHWs) and community health workers (CHWs) serve as vital linguistic and cultural conduits between complex clinical mandates and grassroots populations (Balcazar et al., 2011; World Health Organization, 2018). In primary prevention and chronic disease management, lay educators often demonstrate higher relational empathy and contextual adaptability than clinical specialists, making preventative health concepts more acceptable to community-dwelling elders (Nutbeam, 2000). However, conventional health systems frequently treat community lay workers as precarious, unpaid volunteers. Comparative empirical literature reveals that reliance on altruistic volunteerism leads to severe structural vulnerabilities, including high workforce attrition, role fatigue, and pedagogical inconsistency

(World Health Organization, 2018). Transitioning lay educators into an institutionalized, remunerated workforce provides essential professional scaffolding and accountability. Remuneration does not merely serve as financial compensation; it validates social identity, reinforces self-efficacy, and solidifies long-term workforce retention, thereby establishing sustainable grassroots health promotion infrastructure.

2.2 Civil-Society Innovation and Implementation Science Frameworks

To understand how non-governmental entities deploy and scale workforce innovations, this study draws on implementation science scholarship, particularly the Consolidated Framework for Implementation Research (CFIR; Damschroder et al., 2009). While centralized public health authorities excel at establishing high-level clinical guidelines, they frequently encounter implementation bottlenecks within the "inner setting" of localized, fragmented communities. Civil-society organizations (CSOs) possess structural agility, close community ties, and procedural flexibility, enabling them to adapt external health guidelines into actionable community interventions. Through modular curricular design, CSOs unpack dense biomedical doctrines into somatic exercises, participatory routines, and vernacular teaching scripts. Viewing the Community Health Manager model through an implementation science lens highlights how pedagogical packaging, local community leadership, and iterative fidelity checks interact to facilitate rapid horizontal diffusion across grassroots care points.

2.3 Reconciling Informal Caregiving and Flexible Economic Participation

Demographic aging imposes an intense dual caregiving squeeze on middle-aged adults—often referred to as the "sandwich generation"—who concurrently manage childcare and parental eldercare. Women disproportionately shoulder these domestic responsibilities, frequently forcing them into prolonged career interruptions, precarious informal work, or permanent labor force withdrawal. Hyper-local community health teaching introduces a flexible economic reconciliation model. Because teaching sessions in neighborhood care points are predominantly structured into flexible two-hour morning or afternoon modules, certified lay instructors can re-enter paid work without relinquishing family caregiving duties. Furthermore, the experiential health knowledge acquired through teaching cascades back into the domestic domain, transforming informal caregivers into skilled health facilitators within their own households.

3. Methodology

3.1 Research Design and Case Selection Rationale

This study employs an empirical qualitative case study design to examine the decade-long institutional mechanisms, pedagogical scaffolding, and grassroots outcomes of the Community Health Manager (CHM) model. A case study approach is uniquely suited for investigating contemporary real-world phenomena within bounded operational contexts where boundaries between intervention processes and socio-cultural environments are deeply intertwined.

3.2 Sampling Strategy and Participant Recruitment

Purposive sampling was deployed to capture sustained, frontline instructional experiences across community settings. The inclusion criteria required that participants: (1) successfully completed the standardized CITEA training modules and acquired official certification; (2) maintained between 3 and

6 years of active, remunerated frontline teaching in grassroots community settings; and (3) had no prior vocational, clinical, or academic credentials in medicine, nursing, or allied health fields. The sample size of 12 instructors was determined based on conceptual and thematic saturation, defined as the point during data collection and iterative analysis where subsequent interviews yielded no novel codes, thematic dimensions, or theoretical properties regarding pedagogical adaptation and caregiving reconciliation.

Table 1. Profile Matrix of Key Participant Dimensions (N = 12)

Participant ID	Gender / Age	Prior Background	Teaching Experience	Primary Community Setting
<i>P01–P04</i>	Female 42–55	Homemaker / Retail	4–6 Years	Community Care Stations & Village Activity Centers
<i>P05–P08</i>	Female 38–50	Administrative / Service	3–5 Years	Senior Learning Centers & NGO Care Points
<i>P09–P12</i>	Male/Female 45–62	Self-employed / Retired	3–6 Years	District Public Health Stations & Grassroots Centers

Note. Data compiled from field interview transcripts.

3.3 Data Collection, Coding Procedures, and Thematic Analysis

Data collection relied on semi-structured, in-depth qualitative interviews conducted between 60 and 90 minutes each. An interview guide with open-ended inquiries was used to explore curricular translation, instructor self-efficacy, economic impacts, domestic caregiving navigation, and community reception. All interviews were audio-recorded with prior permission and transcribed verbatim. The verbatim transcripts were analyzed using Braun and Clarke's (2006) six-phase thematic analysis framework. The analytic process proceeded through: (1) dataset familiarization via repeated transcript readings; (2) systematic open coding across the entire corpus to identify latent and semantic units; (3) clustering initial codes into candidate themes aligned with the research questions; (4) reviewing candidate themes against the primary textual extracts; (5) refining, defining, and titling final thematic categories; and (6) producing the analytic narrative supported by empirical data extracts. Coding was performed iteratively using a structured codebook to maintain systematic interpretive consistency across all transcripts.

3.4 Trustworthiness, Research Ethics, and Reflexivity

Methodological rigor and trustworthiness were safeguarded using Lincoln and Guba's (1985) evaluative criteria: credibility, transferability, dependability, and confirmability. Credibility was enhanced through member-checking procedures, wherein all 12 participants reviewed their interview transcripts and preliminary thematic summaries to verify interpretative resonance. Peer debriefing was conducted with an external qualitative researcher to challenge emergent themes and mitigate confirmation bias. Dependability was established through an audit trail documenting all raw transcripts, codebook modifications, and analytical notes. Regarding research ethics, formal informed consent was secured from all participants prior to data collection. Participants were informed of their voluntary participation, the right to withdraw at any stage without prejudice, and strict confidentiality protections.

All personal identifiers, venue names, and geographical markers were anonymized using alphanumeric designations (P01–P12). Because the lead researcher maintains organizational ties with the coordinating association, reflexivity was rigorously cultivated to address potential institutional bias. The researcher maintained reflexive field journals to record subjective

assumptions and preconceptions throughout data collection and coding. To prevent coercive response bias or social desirability effects, interviews were positioned around both program accomplishments and unresolved implementation frictions, explicitly encouraging participants to articulate pedagogical failures, institutional grievances, and community rejection.

4. Empirical Results and Findings

4.1 Modular Curricular Scaffolding and Competence Formation

The CITEA training framework systematically demystifies dense clinical health guidelines through embodied somatic practices, interactive demonstrations, and colloquial analogies. Lay trainees, initially constrained by severe feelings of imposter syndrome due to their non-medical backgrounds, developed teaching confidence through iterative micro-teaching sessions accompanied by structured peer debriefing. As one participant recalled:

"Before joining the training, I felt that health education belonged strictly to doctors and head nurses. Translating muscle preservation and chronic disease prevention into practical rhythmic routines and everyday vernacular gave me the confidence to stand in front of older adults without feeling like a fraud." (P02, female, retail background)

By replacing diagnostic medical jargon with experiential participation, instructors established instructional authority grounded in relational accessibility rather than clinical credentials.

4.2 Professionalization, Remuneration, and Identity Transformation

Departing from altruism-based volunteerism, the model enforces an institutionalized compensation structure offering regular hourly lecture stipends. Remuneration functioned as a catalyst for professionalization, creating a psychological contract of accountability and motivating continuous pedagogical skill upgrading. Instructors reported that receiving formal compensation transformed their community self-perception from passive neighborhood helpers into accredited health educators. Participant P06 noted:

"Being paid a regular lecture fee changes everything. It signifies that my teaching is recognized as legitimate professional labor. It pushes me to review every instructional module rigorously before entering a community care point." (P06, female, administrative background)

This financial validation effectively curtailed the chronic attrition and burnout typically observed in purely voluntary community health campaigns.

4.3 Reconciling Family Caregiving with Flexible Economic Participation

Instructional engagements are predominantly arranged as flexible two-hour modules situated within walking distance of instructors' residences. This hyper-local scheduling proved decisive for middle-aged women navigating intensive domestic caregiving responsibilities for frail parents or school-aged dependents. As P04 articulated:

"I care for my bedridden mother-in-law. A standard full-time position was completely out of the question. Teaching two sessions a week at the local village center allows me to step out for two hours, earn independent income, and return home in time to prepare her meals and medication." (P04, female, former homemaker)

The hyper-local infrastructure transformed what would otherwise have been an insurmountable barrier to workforce participation into an economically productive, flexible caregiving routine.

4.4 Implementation Frictions and Negative Cases

Despite systemic successes, the model encountered critical operational tensions. First, instructors reported acute friction when entering community care stations dominated by entrenched volunteer hierarchies or traditional social workers, who occasionally viewed paid lay educators as external interlopers. Second, lay instructors confronted pedagogical pushback when older participants presented complex multi-morbidities exceeding the instructor's preventive scope. As participant P10 shared:

"In my third month of teaching, a participant asked me to evaluate his prescription drug dosage for hypertension. I felt immense pressure. I had to explicitly explain my boundary: I am a health promotion teacher, not a prescribing physician. Learning to establish professional boundaries and refer medical questions to clinics was a painful but necessary hurdle." (P10, male, retired technician)

Furthermore, attrition data revealed that approximately 15% of candidate instructors withdrew during the mandatory supervised mock-teaching phase, unable to overcome stage anxiety or master somatic demonstration techniques. This highlights that lay workforce development requires psychological resilience alongside instructional scaffolding.

4.5 The Quadruple-Benefit Systemic Loop

Across a decade of longitudinal implementation, the CHM framework established an integrated, self-reinforcing outcome cycle:

Community Health Literacy: Grassroots elders transitioned from passive recipients of acute care into active practitioners of daily functional maintenance and frailty prevention.

Independent Remuneration: Middle-aged caregivers gained reliable supplemental income without disrupting core domestic caregiving roles.

Psychological and Social Empowerment: Instructors established resilient social identities, mutual community respect, and elevated self-efficacy.

Intrafamilial Health Spillover: Preventive health competencies and ergonomic knowledge cultivated in teaching directly upgraded the quality of physical care within instructors' private households.

5. Discussion, Policy Implications, and Limitations

5.1 Quality Assurance Protocols and Implementation Prerequisites

Sustaining the Community Health Manager model over ten years required strict quality assurance (QA) architectures. The operational model relies on three institutional prerequisites: (1) mandatory biannual re-certification workshops ensuring curricular alignment with national preventive guidelines; (2) continuous randomized field audits conducted by senior mentor instructors; and (3) systematic participant-evaluation loops administered at the conclusion of each community course. Transferring this model to other rapidly aging international contexts requires strong civil-society networks, structured partnerships with neighborhood community centers, and institutional recognition from local public health authorities to prevent boundary conflicts with clinical professionals.

5.2 Research Limitations and Boundary Conditions

Several limitations bound the interpretations of this empirical case. First, the sample was purposively drawn from certified instructors who remained active for at least three years, introducing a survival bias that may underrepresent the challenges experienced by trainees who abandoned the pipeline early. Second, while the qualitative design uncovered rich institutional mechanisms, it did not quantify direct biomedical biomarker shifts (such as grip strength or blood pressure control) among the participating older adults. Future implementation research should combine qualitative tracking with longitudinal clinical control trials to assess objective epidemiological outcomes across expanded geographical cohorts.

5.3 Conclusion

The Community Health Manager model demonstrates that organized civil-society initiatives can bridge the structural gap between hospital-centric clinical systems and grassroots aging populations. By configuring lay health education as a professionalized, remunerated vocation with flexible scheduling, the model simultaneously resolves the crisis of community health workforce supply and supports vulnerable informal family caregivers. As demographic aging accelerates globally, this civil-society-led, prevention-oriented blueprint offers a viable, cost-effective framework for building resilient community public health infrastructure.

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